



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 1

JOHN F. KENNEDY FEDERAL BUILDING  
BOSTON, MASSACHUSETTS 02203-0001

April 2, 1998

James Shafer, Remedial Project Manager  
U.S. Department of the Navy  
Naval Facilities Engineering Command  
Northern Division  
10 Industrial Highway  
Code 1823, Mail Stop 82  
Lester, PA 19113-2090

Re: Human Health Risk Assessment for Derecktor Shipyard

Dear Mr. Shafer:

I am writing in response to your request for EPA to review the *Human Health Risk Assessment for Derecktor Shipyard* dated March 1998. Detailed comments are provided in Attachment A.

I understand that there is a ban on clams and mussels in the area - but not on lobster. The HHRA should note these bans with regard to risk. In particular, please explain the how the bans were developed and what they were based on.

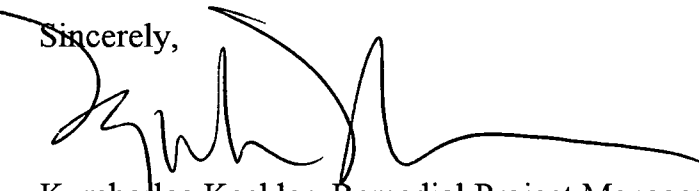
Since this is a public document, presentation of complete information is important. Please define all acronyms and any specific references used in tables directly on the page of the table. In many instances tables are pulled from documents or used for quick references.

Please add a note regarding the bold text risk values in tables 6-2 through 6-13. The highlighting of these values is useful for finding the major contributors to risk for each scenario, but this may not be apparent to every reader. A special point regarding the highlighting of the various PCB congeners should also be made. In addition, highlighting the substance correlating with the "high" risk values would make finding these high risk contributors easier to locate.

Please add a section to the document or subsection under Risk Characterization that summarizes the risk conclusions. Although the risk evaluation is well-presented, a summary discussing the highest risk scenario, the Constituents of Potential Concern correlated with the higher risk values, and a general site-risk overview is necessary.

I look forward to working with you and the Rhode Island Department of Environmental Management toward the cleanup of Derecktor Shipyard. Please do not hesitate to contact me at (617) 573-5777 should you have any questions. I look forward to meeting with you on April 22, 1998 to discuss these issues and the Preliminary Remediation Goals for this site.

Sincerely,



Kymberlee Keckler, Remedial Project Manager  
Federal Facilities Superfund Section

Attachment

cc: Paul Kulpa, RIDEM, Providence, RI  
Kevin Coyle, NETC, Newport, RI  
Cynthia Hanna, USEPA, Boston, MA  
Jennifer Stump, Gannet Fleming, Harrisburg, PA  
Ken Finkelstein, NOAA, Boston, MA  
Steven Parker, Brown & Root, Wilmington, MA  
Mary Philcox, URI, Portsmouth, RI

## ATTACHMENT A

| <u>Page</u>       | <u>Comment</u>  |
|-------------------|---|
| Table 4-1         | It appears that the Benz(a)pyrene equivalency factors (BEFs) were applied to the some of the carcinogenic polycyclic aromatic hydrocarbons ( <i>e.g.</i> , benz(a)anthracene, benz(a)pyrene, chrysene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene). However, equivalency factors were not applied to benz(b)flouranthene (BEF = 0.1) and benz(k)flouranthene (BEF = 0.01). This policy is delineated in the August 1994 <i>US EPA Region One Risk Update</i> and in the <i>Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons</i> (EPA/600/R-93/089). Please make the appropriate changes to the calculations and the document. These changes should include adding an equivalency factor table and a discussion of the equivalency factor application. |
| pp 5-3 to 5-4, §5 | The dose equation needs to have a conversion factor for milligrams to kilograms. Based on a spot check of calculations, it appears that the conversion factor was used correctly in the dose calculations. Please add the conversion factor to the equation in the text.  |
| Section 6.0       | Please present cancer risk and non-cancer hazard quotient equations ( <i>i.e.</i> , relationships between dose and toxicity) in this section.   |
| Table 6-2         | Please insert lines for cancer risks and non-cancer hazard totals to the table. Also, note the definitions for RME and CTE on the same page.  |
| p 7-6, §7 3 4, ¶2 | It is EPA's understanding that the shell fishing ban only pertains to mussels and clams. This statement is therefore not accurate with respect to risks from ingestion of lobster. Please provide more details about the shell fishing ban - and its effect on the risk assessment - in the text.   |
| p. 7-7            | <i>Hard Shell Clams:</i> The first paragraph states that the arsenic at the site is more likely to be bay-related rather than site related. This appears to conflict with some of the information in the ecological risk assessment (SAIC, 1997). Statements from the ecological risk assessment are excerpted below:<br><br>“ . In general, the aluminum-normalized values for all measured anthropogenic trace metals ( <i>i.e.</i> , arsenic, cadmium, chromium, copper, lead, mercury, nickel, silver, and zinc) demonstrated a decreasing  |

trend moving offshore from Derecktor Shipyard/Coddington Cove [page 1-6]....”

“...ER-L hazard quotients for metals in sediments indicated that Station DSY-29 had the highest elevations of arsenic, chromium, copper, lead, mercury, nickel, and zinc, with minor elevations of these metals at a relatively small number of the other stations within the Derecktor Shipyard/Coddington Cove study area [page 1-20]....”

“..Unlike BSAFs for organics, the overall pattern of BAFs for metals did indicate differences in the degree of bioaccumulation into tissues: 1) High (Zn, As); 2) Intermediate (Hg, Cu); 3) Low (Cr, Mn, Fe, Al); and 4) Very Low (Ag, Ni, Pb) [page 1-23]. ”

## REFERENCES

Science Applications International Corporation May 1997. *Derecktor Shipyard Marine Ecological Risk Assessment Report*. Narragansett, RI.